

## Upper Limits on Europa's Atmosphere from the Occultation of PPM 269153

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The occultation of PPM 269153 by Europa was observed at  $3.5\ \mu\text{m}$  with NSFCAM at the IRTF on Mauna Kea, Hawaii, the night of June 28, 1996, UT. Emersion was observed with a time resolution of 0.033 seconds, giving a spatial resolution at Europa of approximately 4 km. Unfortunately, the immersion was missed (however, see Hubbard *et al.*, this conference). A preliminary reduction of the data using a software package originally written for lunar occultations is consistent with no atmosphere on Europa. The code allows for a finite bandpass, telescope size and stellar diameter. This preliminary result reveals that the diameter of the star (spectral class K) was about  $0.55 \pm 0.03$  mas. This is the smallest stellar diameter ever measured using the occultation technique. Using the model of French and Gierasch (*Astron. J.* **81**, 1976), we find that our data are inconsistent with a surface pressure greater than  $\sim 0.25\ \mu\text{b}$ , the actual value being dependent on composition and temperature assumed.

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